



KYLE PITSOR

Vice President, Government Relations

April 25, 2006

The Honorable Joe Desmond
Chairman
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: Proposed Amendments to Appliance Efficiency Regulations: California Code of Regulations, Title 20: Sections 1601-1608: General Service and Reflector Incandescent Lamps, and for Metal Halide Luminaires

Dear Chairman Desmond and Commission Members:

The National Electrical Manufacturers Association submits the enclosed comments and recommendations on the proposed 15-day language issued on April 10, 2006 on the referenced matter. We appreciate the opportunity to contribute to the development of the proposed Title 20 regulations, and urge favorable consideration be given to our views.

Very truly yours,

Enclosure

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Manufacturers Association**

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NEMA Comments on Proposed 15-Day Language, April 25, 2006

NEMA appreciates the opportunity to offer comments and recommendations on the California Energy Commission's (CEC) 15-day language for Appliance Efficiency Regulations (Title 20 CFR Sections 1601-1608). We have commented on many parts of the Proposed Amendment in past correspondence and meetings with your staff. Since it is now very late in the Title 20 amendment process, we have limited our comments to changes that are editorial or technical in nature with respect to incandescent reflector lamps, general service incandescent lamps, and metal halide luminaires in the proposed 15-day regulations.

Incandescent Reflector Lamps

NEMA is pleased that the CEC incorporated the joint NEMA and ACEEE consensus proposal. Specifically, we appreciate that the CEC acknowledged NEMA's comments on the 45-day language proposal in February 2006.

General Service Incandescent Lamps

NEMA appreciates that the CEC took note of NEMA's concerns regarding new wattage products and finalized the 40-watt replacement wattage as 38 watts. This is both technically correct and consistent with the approach for the other wattages. We also appreciate CEC's decision not to include enhanced spectrum lamps as part of this Title 20 revision.

As you are well aware from our past discussions, NEMA views the Tier 2 (January 2008) regulation as part of a large and important experiment in support of our joint objective to save energy. NEMA approaches the proposed lower wattage regulation of general service incandescent lamps from the perspective that it should be coupled with an educational and promotional campaign aimed at the purchasers of these lamps. For reasons previously stated, whether significant energy is saved as a result of the many product changes from the Tier 2 requirements depends entirely on the consumers' buying preference to purchase a lower wattage product over today's common wattages.¹

While generally pleased with the compromises that have been collaboratively achieved, NEMA members would like to take this opportunity to reiterate two major concerns. We must note that we still have fundamental concerns with the "efficiency lines" for both clear/frost and soft white

¹ NEMA and its members continue to maintain that California and all other States are preempted by federal law from adopting energy conservation standards applicable to general service incandescent lamps. Our willingness to engage California on the merits of its proposal should not be construed as a waiver of this position. See NEMA's Comments to the CEC dated October 29, 2004 and December 13, 2004 (Dkt No. 04-AAER-1). 42 U.S.C. Section 6297(b) preempts States from adopting energy conservation standards for covered products to which 42 U.S.C. Section 6295(i) is applicable. Section 6295(i)(5) and subsequent DOE regulation confirm that section 6295(i) is applicable to general service incandescent lamps.

lamps as defined by the formulae in Table K-3. While we agree with the “max watts” values of the wattage plateaus (38W, 57W, 71W, and 95W), we note that the “left-hand” borderline in the Proposed Amendments show, in general, a 2-watt decrease compared to the Tier 1 (Jan. 2006) line. This gap is even greater than 2 watts for some lumen values. NEMA members would still prefer that this left hand borderline be moved back to the Tier 1 “left-hand” borderline, maintaining the plateau levels where they were as of Jan. 2006. This would, in effect, extend the plateau lines further to the left, to lower lumen values. Although it is admittedly late in the process, we propose the same formulae for K-3 that were contained in our February 2, 2006 letter to the CEC.

We provide three reasons for extending this line to the left:

1. Our proposal has no negative impact on the amount of energy saved. The proposed plateaus are 5% below today’s commercial wattages in this lumen range, regardless of the lumen package.
2. Extending this line to the left permits the offering of longer life products. As we previously discussed, once the wattage is established, the only remaining design parameters to be set are the life and lumens (and cost, if the technology changes). It is very important for companies to distinguish themselves in the marketplace; shrinking the plateau region makes this more difficult. While some may characterize the left side of this plateau as “dimmer”, others would characterize it as offering a “longer life” alternative. The trade-off among consumer preferences will surely vary, and we think the freedom to meet these varied preferences should exist. Our expectation is that products may well be available along the full plateau region, with different life-lumen-cost-technology trade-offs to suit different customer preferences.
3. Mistaken claims about the benefits of using krypton in these lamps persist. We wish to once again document that mistaken claims regarding the benefits of using krypton in these lamps have been presented to the CEC based solely on references to outdated publications² not representative of today’s situation. These conditions lead to overly optimistic predictions. As a result of our continued desire to properly document the realistic impact of using krypton, a NEMA Lamp Section member company, within the last three months, made lamps in the laboratory to retest this theory. The result reaffirms what we have previously reported to the CEC. For 100 W lamps, the use of a standard 70% krypton fill gives a 1.5-2% lumen increase for “same wattage-same life” lamps. The use of an enhanced krypton fill (88%) gives a 4.3% increase. In practice, this means that a 95-watt lamp of the same life as its 100-watt counterpart would produce 6% fewer lumens if filled with 70% krypton. This same 95W lamp would produce 4% fewer lumens with an 88% krypton fill, showing that the krypton fill does not feasibly recover all of the lumens lost when wattage is reduced, assuming life remains the same. For

² W.E. Thouret, H.A. Anderson, R. Kaufman, Illum. Eng., April 1970, 231-240; W.E. Thouret, R. Kaufman, J.W. Orlando, J. IES, April 1975, 188-197.

engineering reasons, we would not arbitrarily exceed the 88% level of krypton³. We continue to maintain that the numbers proposed by proponents are optimistic and erroneous. Before accepting them as correct, we urge that the CEC require the proponents to submit practical lamps for laboratory testing and verification (lumens and life).

Metal Halide Luminaires

NEMA notes a number of changes have been made between the 45-day language and the new 15-day language. There are several editorial changes that need to be made. The revised language regarding measurement of ballast efficiency on page 3 of the Proposed Amendments erroneously specifies measurement according to ANSI C82.6-2005 as the American National Standard for Reference Ballasts for Metal Halide Lamps. Rather, ANSI C82.6-2005 should be listed as the American National Standard for Reference **“Ballasts for High Intensity Discharge Lamps-Methods of Measurement”**. This editorial error again appears on page 5.

We understand that CEC staff has already been made aware of a conflict that appears on page 8 and 9 of the Proposed Amendments.

1. Page 8 editorial changes. In (n) (2), the last sentence of second paragraph delete “when tested under the following conditions.”
2. Page 9. Eliminate the last two Luminaires sub-sections (D) and (E), because they contradict ANSI C82.6-2005. All NEMA ballast efficiency discussions with the CEC to date have been based on “cold ballast” measurements per C82.6. Cold ballast losses at “nominal” lamp voltage are more representative of typical ballast losses over lamp life than hot ballast loss measurements at “nominal” lamp voltage. Subsections D&E relate to UL temperature ratings and are not appropriate for C82.6 test method.
3. Page 15 “Table N-1 Standards for Metal Halide Luminaires” under Requirements heading in the fourth category underneath “Exceptions”. Re-letter the second b. to c. Also, change wording FROM “Contain a ballast that is rated to operate at ambient air temperatures above 50 degrees C as specified by UL 1029” TO “Are operated in ambient air temperatures above 50 degrees C.”
4. Page 15, “Table N-1 Standards for Metal Halide Luminaires”, Exceptions: Include in 2 (a). 150-175 watt lamps rather than only 150 watts. The use of 88% efficient ballasts for outdoor luminaires is equally problematic for 175-watt product as for the proposed

³ The practical ability to provide adequate arc suppression for a 120V incandescent lamp is related to the final krypton fill pressure.

exempted 150-watt product. However, if the CEC does not accept our proposal to add the 175-watt to the exemption, then it is essential to change the date from 2008 to 2009.⁴

5. Page 15; refine the definition of vertical under Table N-1 to include products “rated ONLY for use within 15 degrees of vertical”. We consider this to be a minor revision that involves a one-word change to the standard.⁵

In conclusion, NEMA appreciates the opportunity to contribute to the development of these Title 20 regulations. More generally, we appreciate CEC’s consideration in consulting with industry and accepting many of our contributions on the complex issues associated with the amended Title 20 requirements over the past several months.

⁴ This would be necessary to allow luminaire manufacturers time to incorporate, test and certify products for ballasts that will have different dimensions and/or thermal characteristics, and to expand the scope of available 150 watt products that are not currently available.

⁵ It would have limited negative impact on energy savings, but is critical to ensuring compliance since there are virtually no pulse start lamps available today for universal burning position. This is simply a time request in order to develop universal lamps required for floodlights.